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Evaluating the contribution of the clinical librarian to a multidisciplinary team

Christine Urquhart, Janet Turner, Jane Durbin and Jean Ryan

Abstract

The evaluation of the North Wales clinical librarian project (18 months, October 2003-March 2005) aimed to provide the evidence for the planning of health library services that would actively support improved patient care. The objectives discussed in this paper focus on the working of the multidisciplinary teams, and the way the clinical librarian support changed as the project developed. Tracking changes in the number of search requests made, or in the perceived information-seeking attitudes of the team members provided some indications of changes. The main findings were that the clinical librarian had to take an active part in the work of the team, through restructuring of journal clubs, in order to achieve full integration, and the highest levels of trust, with the established clinical teams. With the newly established teams, affective trust, with the establishment of good interpersonal relationships, was important. Concludes that longitudinal evaluation was effective, and necessary to the understanding of the factors affecting the success of clinical librarianship.

Introduction

Clinical librarians are, essentially, librarians who work with clinical staff, rather than simply for clinical staff. They often work outside the confines of the library, in the clinical setting, and the scope, and extent of their work varies considerably in the UK (Sargeant and Harrison, 2004a) (Ward, 2005). Although clinical librarianship is not a new concept, the growth of clinical librarian posts has been rapid over the past five years in the UK. Unsurprisingly there is considerable interest in assessing the cost-effectiveness of clinical librarianship as these posts are generally funded from project funding. A systematic review of evaluations of clinical librarian services (Wagner and Byrd, 2004) noted the lack of rigorous comparative research methods in the evaluations reviewed, and another systematic review (Winning and Beverley, 2003) noted the lack of data on cost-effectiveness. The main impact of clinical librarian services appeared to be the perceived usefulness and quality of the information resources provided by the clinical librarians, (or clinical medical librarians as they are called in North America) with some studies suggesting that the impact on patient care should be positive. One of the areas identified for future research in the 2004 review was the examination of the best setting for clinical librarians. A later study of the impact on patient care of clinical librarian services (Weightman and Williamson, 2005) suggested that time savings (in health professional time) and improved patient outcomes should be possible to demonstrate. The government wishes the health services to demonstrate efforts to improve the quality of patient care (under clinical governance), and there should be scope and support for health library services to develop clinical librarianship, but it is difficult to gain recognition for the role (Sargeant and Harrison, 2004b), as hospital Trusts and departments within those Trusts interpret clinical governance needs differently.

Perhaps understanding the way the role may develop should precede assessment of the impact of a clinical librarian service, and that requires, as the 2004 review suggests, more examination of the factors in the clinical setting that affect the success of a clinical librarianship project. The evidence suggests that there should be a positive impact on patient care, but few indications on how this is achieved and the role the clinical librarian should play in the team. Roles may change over time, and team dynamics are rarely static. Some changes in team working might be attributable to the effect of the clinical librarian, but in other situations, the way the team is structured may hinder change, and the clinical librarian may not be able to develop a role as an effective member of the clinical team, improving the quality of patient care. This paper discusses the way the North Wales Clinical Librarian service developed among the various teams served, and how the impact of the role change was evaluated.

Background

The clinical librarian project encompassed activities across three NHS Trusts in North Wales:

- North West Wales NHS Trust: Information skills outreach training sessions
- Conwy & Denbighshire NHS Trust (Glan Clwyd): work with five clinical teams
- North East Wales NHS Trust (Wrexham): work with one multidisciplinary team

The clinical librarian (Jean Ryan) worked closely with the evaluation team from the University of Wales Aberystwyth (Durbin, Turner and Urquhart). The evaluation objectives were to:

- Assess which aspects of the clinical librarian services were used
- Estimate time (and money saved) through clinical librarian searches, compared with searching conducted by clinical staff
- Estimate the effect of information skills training on staff searching patterns, and time taken to search
- Examine the benefits to clinical practice (in terms of clinical governance activities and policies)
- Examine whether information skills training has affected skills and confidence
- Explain some of the factors affecting the working of the clinical multidisciplinary teams with the clinical librarian involved, and whether attitudes towards the clinical librarian changed.

This paper focuses on the last objective, the factors affecting the working of the clinical multidisciplinary teams, but other aspects of the evaluation are also included. The formal evaluation plans were agreed shortly after the clinical librarian started in the post in September 2003, but formal ethical approval was not obtained until March 2004.

Conwy & Denbighshire	North West Wales	North East Wales
ICU (Intensive Care Unit)	Information Skills training to entire community	Psychiatry Journal Club

	directorate	
Urology MDT (MultiDisciplinary Team)	OT (Occupational Therapy) Journal Club	Psychiatry evidence-based practice groups
Lung MDT	Palliative Care Journal Club	
Nutrition Support Team		
Community Assessment Partnership (CAP)		

Table 1 Location of teams

Methods

The methodology aimed to track the developing role of the clinical librarian, to identify how any changes in team working occurred. Ethical and resource constraints meant that observation of the clinical librarian working with the clinical teams was not feasible, although it was possible to observe one journal club session. The clinical librarian kept a reflective practice diary throughout the period of the evaluation (November 2003 – January 2005). This provided data on the team dynamics, the type of work requested of the clinical librarian and how she perceived her role in the team. The entries were sent to one of the evaluation team who entered the text documents into qualitative data analysis software to help analyse:

- Changes in the type of activities undertaken
- Problems and opportunities at work
- Attitudes of staff towards the scope of clinical librarian activities
- Development of trust in multidisciplinary team working

Other elements of the evaluation focused on assessing the before and after changes at particular time points. The questionnaires provided data on the attitudes and skills of the clinical staff in the team, and the interviews helped to explain why some of the changes had or had not occurred, and how the clinical staff perceived the role of the clinical librarian.

Evaluation of the information skills outreach training sessions in North West Wales involved:

- Pre-session skills assessment conducted by the clinical librarian
- Immediate post-session assessment also conducted by the clinical librarian
- Reflective assessment on skills training, questionnaire survey conducted by the evaluation team
- Interviews (n= 12) with training participants, conducted by the evaluation team

The evaluation for teams in NE Wales and Conwy & Denbighshire comprised:

- Initial baseline questionnaire survey to assess attitudes towards searching electronically (Internet and clinical knowledge databases) and willingness to spend time searching on various types of task (Table 2)
- Interviews (face to face n= 7) and telephone (n = 26) with members of the team, to gain more details about the effects on clinical practice of information provided by the clinical librarian. A random sample was taken of the members of the

- groups who had access to the clinical librarian services and interviews were carried out with informed consent from interviewees.
- Final questionnaire survey (Table 2)
 - Analysis of feedback from clinical staff on the literature searches conducted by the clinical librarian for them

In addition, the final phase included a control group evaluation of clinical librarian and other library services with:

- Questionnaire survey

	Number distributed	Number returns	Response rate
QUESTIONNAIRE surveys			
Baseline Questionnaire (clinical teams)	95	69	72.6%
Immediate outreach training feedback forms	130	90	69.2%
Post-training (outreach) questionnaire	75	24	32.0%
Final questionnaire	74	57	77.0%
Final questionnaire (control group)	150	123	82.0%
INTERVIEWS (n=45)	N W Wales (outreach training)	Glan Clwyd (clinical teams)	Wrexham (clinical teams)
	12	22	11

Table 2 Evaluation survey response

Team response to the baseline survey varied from under 50% to 100%. The questions used in the surveys were based as far as possible on validated questionnaires. Questions on attitudes and perceived skills were based on the questions used in the INFORMS survey (2003) and the questions on the impact on clinical knowledge and decision making based closely on those used in the Value project (Urquhart and Hepworth, 1995 a, b).

The questionnaire data were entered into an Excel spreadsheet for simple descriptive statistical analysis. The interview data were entered into a qualitative data analysis software package (QSR N6). The qualitative analysis aimed to identify and explain the reasons for changes in attitudes towards searching for the evidence, use of the clinical librarian, the time spent on various types of clinical questions and the impact (or not) on clinical practice of clinical librarian services.

The delays in obtaining ethical approval meant that the baseline survey was in fact conducted nearer the mid-phase of the pilot project.

Results

The results in this paper focus on the impact on the work of multidisciplinary teams. The teams' use of clinical librarian services developed along different lines. At the start of the project the clinical librarian attended team meetings and offered literature searches to support clinical queries that emerged, towards the end of the project this work had developed into more structured support of journal clubs and presentations by junior doctors in some, but not all teams. The clinical librarian service was very much designed to be a tailored service which would cater for the needs of individual teams. Therefore, the variety of the services on offer and the differing use of the service by the different teams reflects the success of the flexible approach of the clinical librarian service and the importance of allowing teams to dictate which services they value most. The teams served by the clinical librarian contained infrequent library service users and the outreach impact of the clinical librarian is clear – improving information searching confidence and skills among staff who had not used library services until the introduction of the service. The “clinical librarian effect” was to increase the willingness of staff to spend time searching for information.

Literature searching

All the teams (apart from the Community/Training team in North West Wales) initially asked the clinical librarian to carry out individual searches. Most searches were carried out for the purpose of clinical practice, followed by searches for guidelines or protocols. Other searches were in connection with research and team working. The subject matter of the searches was mainly related to patient management and therapy, followed by staff team management.

Of the 82 searches in the initial phase (Nov03-Mar04) most were conducted for the Psychiatry team (28), followed by Nutrition (22), and the Community Assessment Partnership (CAP) (14). Of the 125 searches conducted in the second phase (Apr04-Nov04) the Psychiatry and Nutrition teams continued to request the most searches (37 and 33 searches respectively). Although the numbers for the ICU team continued at a low level, the clinical librarian regularly helped the junior doctors with literature searching for the journal club but these have not been counted in the literature searching figures. The number of requests increased for literature searches from the Community/Training group in NW Wales, where the effect of the journal clubs was to increase the number of requests for individual searches. The total number of searches in the evaluation period (Sep 2003 to Dec 2004) was 218 (13.6 per month overall).

Evolution of clinical librarian activities within one team

The changes within one team (noted in the reflective practice diary) illustrate how clinical librarian support evolved over the period of the project. The clinical librarian's initial contact with the ICU team (of approximately 20) was to attend their clinical meetings and carry out literature searches when requested to do so. During November 2003 the clinical librarian had conflicting feelings about her relationship with this team. When no one turned up at an ICU meeting and they didn't let her know she commented that she was "not yet thought of as an 'integral' member of the team!" But on another day after a successful meeting, she felt as if she was "making a positive impact with this

team". Then it was decided that it would be more beneficial if the clinical librarian attended their journal club instead and provide information skills and critical appraisal training. At first she found the prospect of being the "teacher" of critical appraisal a little daunting but after careful preparation of training sessions, and later undergoing extra training herself, she felt confident in her ability to provide this service and received very positive feedback from it. In August 2004 the journal club was restructured with the clinical librarian's input and everyone concerned appreciated the new format. The trainees had to come up with a clinical question and then make an individual appointment to see the clinical librarian to go through the literature searching process. They would then give a presentation on the evidence found and explain their searching process. It was agreed that the clinical librarian should attend the journal club every second week when the emphasis would be on how the evidence was found and assessed and the critique would be more rigorous. Although the work was very time-consuming as it involved a number of sessions with the trainees, the clinical librarian believed that they were learning a lot from the one-to-one sessions and that it was time well spent. In fact everyone appreciated the newly structured journal club and one consultant commented: *"meetings which we didn't particularly like going to before, now are a sell-out. They're very well attended. People talk very frankly and they talk from facts rather than from opinion and they learn."*

Quantitative analysis of changes in attitudes

At baseline, the majority of team members used the Internet and were familiar with search engines, although the majority of all team members did not always find what they wanted on the Internet (Table 2). The percentages have been calculated on the possible responses: some respondents did not answer every question, and hence the percentages for the yes/no responses do not add up to 100%. The very different sizes of teams make comparisons difficult, but there were differences. We judged independent searchers to be those who could search the Internet and Trust websites, and confident searchers those who could cope with the amount of information they might find. High degrees of confidence might be accompanied by the assured perception that no training or assistance is necessary. The distinct categories that emerged were:

Independent, confident and assured

(can search Internet and Trust website, not apparently overwhelmed by amount of information found, but aware of the limitations, have not received training, and do not ask for help – because they do not perceive the need?) (Urology, Lung, Nutrition)

Independent, contradictory views on confidence

(can search Internet and Trust website, but tend to be overwhelmed by information although satisfied by results of searching, aware of the need for help) (ICU)

Dependent

(less experience of Internet searching, greater dependence on print sources, may or may not have received training, don't ask for help) (CAP, Psychiatry)

Attitudes towards searching	Average (baseline) n=69 (Urology n=4, Lung n=7, Nutrition n=6, ICU n=11 CAP n=9 Psychiatry n=32) %	Average (final) n=57 (Urology n=7, Lung n=9, Nutrition n=6, ICU n=10 CAP n=8 Psychiatry n=17) %
Use Internet	89.9	<i>Not asked</i>
Don't use Internet	10.1	<i>Not asked</i>
Search NHS Trust website	59.4	70.2
Don't search NHS Trust website	31.9	28.1
Uses search engines	87.0	93.0
Doesn't use search engines	10.1	7.0
Overwhelmed by amount of information	60.9	68.4
Not overwhelmed by amount	30.4	28.1
Always finds what is required on Internet	17.4	29.8
Does not find what is required	75.4	70.2
Uses printed sources more	49.3	52.6
Uses printed sources less	39.1	40.4
Uses databases mostly	53.6	57.9
Does not use databases mostly	39.1	35.1
Has received training	14.5	26.3
Has not received training	81.2	73.7
Usually ask Librarian for help	43.5	45.6
Don't usually ask Librarian for help	52.2	45.6

Table 3 Baseline and final attitudes of teams towards searching

Attitudes of the teams in the final phase were analysed in similar way, to assess whether there are changes in attitudes and behaviour between the baseline and the final phase, and whether some team categorisations have altered (Table 3, main category changes noted in bold). Overall, the Teams search the NHS Trust website more than they did, they use search engines more, and they are more concerned about information overload. An increased percentage think that they can always find what is required on the Internet, but the balance between preferences for print and electronic resources remains the same, as does the reliance on databases. An increased percentage has received training, but the percentage that usually asks for library help remains the same.

The effect of having clinical librarian support might be expected to differ according to the team's baseline position. If the presence of the clinical librarian is to support clinical governance, then it might be hypothesised that:

Independent teams (Urology, Lung, Nutrition) should continue to be independent, but may show interest in using other databases, or reassessing their skills

Teams that had contradictory views on confidence (ICU) might show more awareness of the limitations of the Internet, and feel less overwhelmed by information overload.

Teams that were dependent (CAP, Psychiatry) might show more evidence of searching skills and confidence, and might have gained more training. They might also be at an intermediate stage, with contradictory views on confidence.

The main change observed for the Urology team was a change in comparative position, from being five or more percentage points above the average team score at baseline to five more percentage points below in the final survey, for perceived skills in searching the Trust website, and use of search engines.. The Lung team showed no extreme changes, rather a slight decline in skills and confidence in some, but not all searching attitudes. For example, the Lung team use of databases was about average at baseline, but five or more percentage points below the average in the final survey. However, the Lung team was well above average in use of the NHS Trust website at baseline and remained that way in the final survey. The findings for the Nutrition (Figure 1) team are similarly equivocal, with unexpected changes in attitudes towards information overload, but improvements in use of the NHS Trust website. The number of respondents in each team was small, and the composition of the baseline and final survey not necessarily similar. In fact, as the reflective practice diary records, the clinical librarian service did not develop beyond literature search support for the Lung and Urology team, and services were later reallocated to other teams.

The ICU team (Figure 2) still felt overwhelmed, but was making more use of specialised databases, and NHS Trust websites, reflecting, perhaps the greater percentage with library skills training, and more structured support for journal clubs with the ICU team. There was little change in the percentage of the team 'always finding what is required on the Internet'.

In the final phase the CAP team seem to be at an intermediate stage. They asked for more help, but at the same time rely on the Internet, although they feel more overwhelmed by the amount of information retrieved. On the other hand, they moved from a position of being five or more percentage points above the average in 'always finding what is required on the Internet' at baseline, to being five or more percentage points below in the final survey. The Psychiatry team attitudes are scarcely changed (Figure 3). More staff report receiving library skills training, and there is more Internet searching and a little more use of databases. Journal club support was developed with this team as well, but changes in attitudes in a large, and more dispersed team may be more difficult to assess.

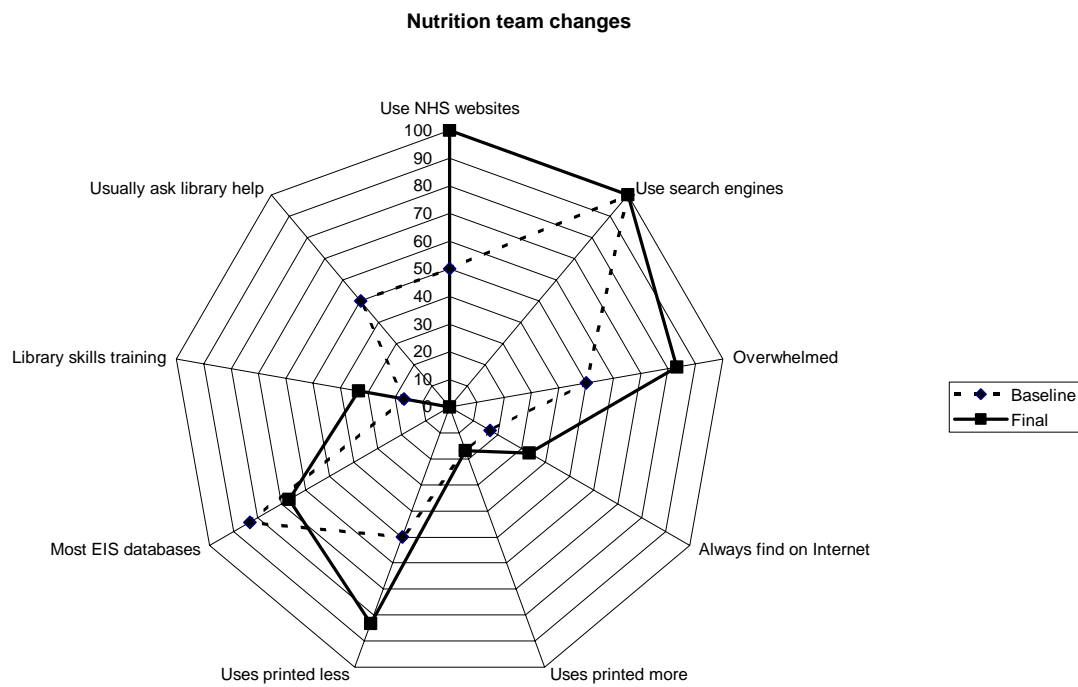


Figure 1 Changes in Nutrition team

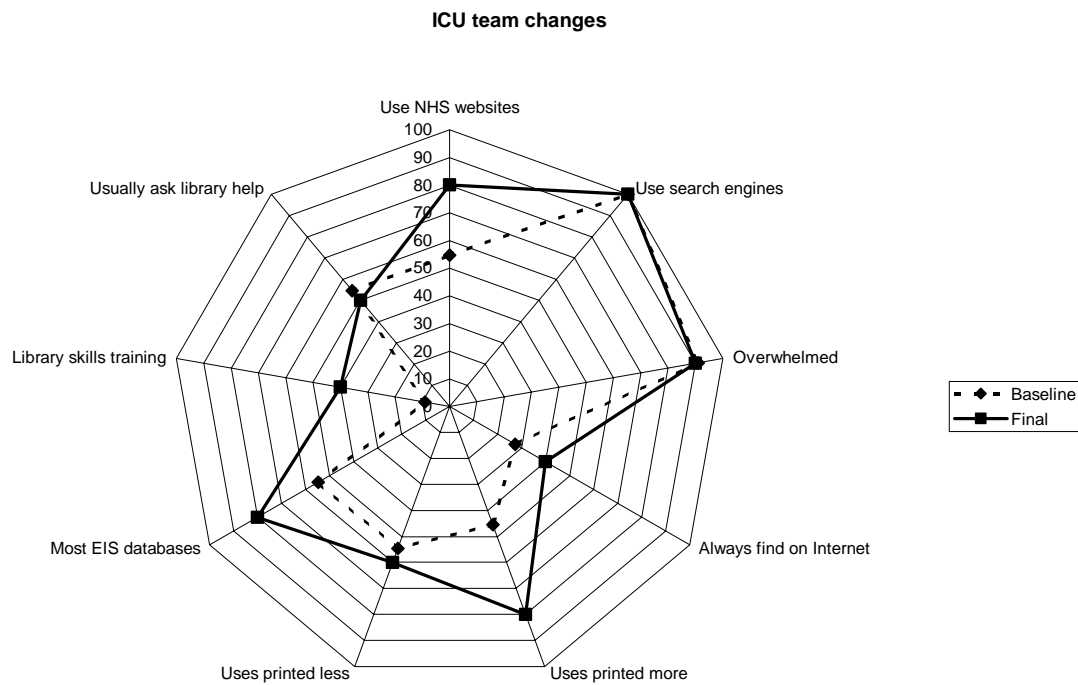


Figure 2 Changes in ICU team

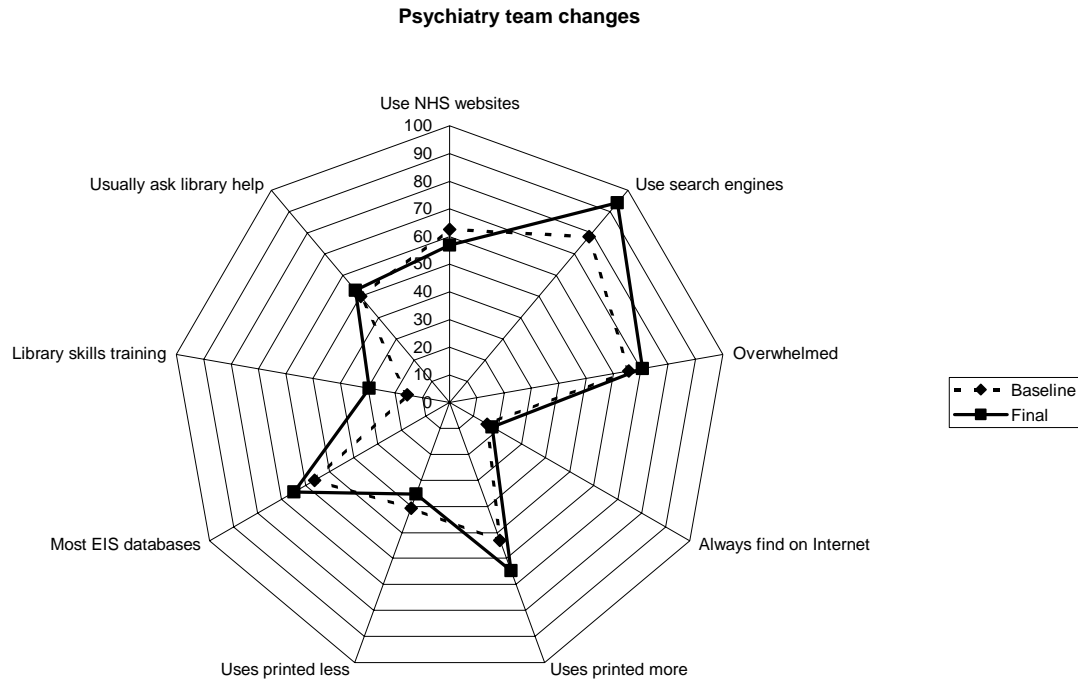


Figure 3 Changes in Psychiatry team

The changes between the baseline and final attitudes overall (Figure 4) indicate that the main changes effected by the presence of the clinical librarian on team was increased library skills training, greater use of databases such as MEDLINE, and increased confidence in Internet searching (and results obtained). The control group was largely composed of library users (and frequently asked for help from the library as the diagram indicates). The teams served by the clinical librarian contained infrequent library service users and the outreach impact of the clinical librarian is reasonably clear – improving information searching confidence and skills among staff that had not used library services until the introduction of the service.

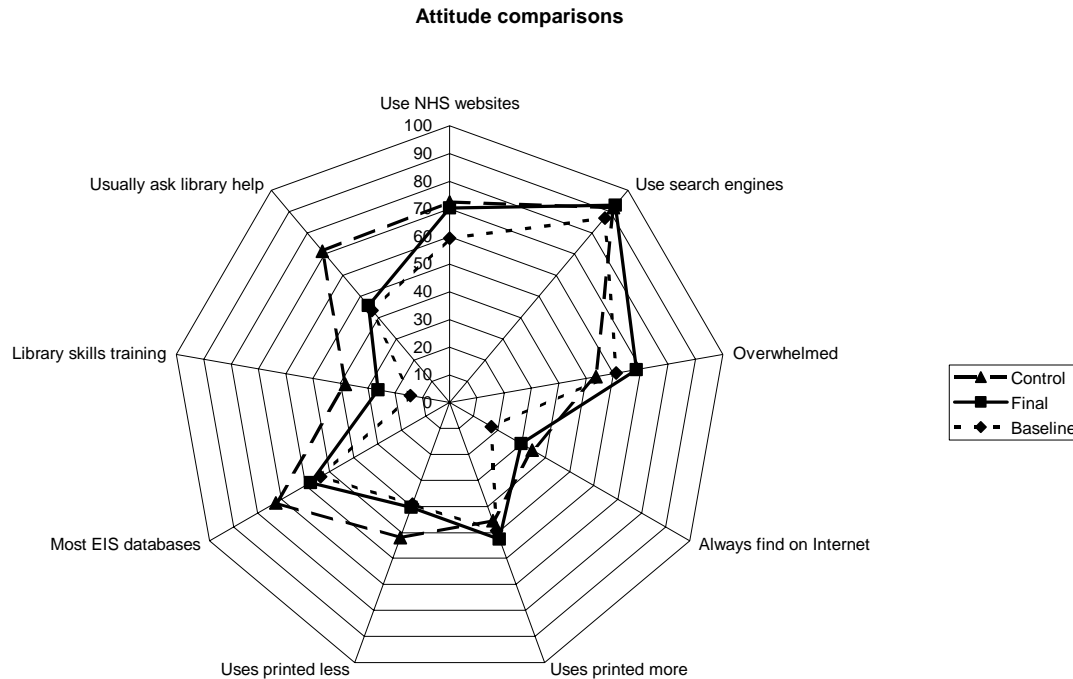


Figure 4 Attitude comparisons among baseline, final and control groups

Seventy nine per cent of the interviewees from the teams commented that they are now more aware of current developments and research (since the availability of the clinical librarian services).

‘Well definitely because you know there are colleagues, even though I might not be using her, my colleagues are coming back with information as well, so yeah we’re all developing because of the new research and it’s just keeping us informed and on top of everything really.’ (CAP - social worker)

With each search done by the clinical librarian for the multidisciplinary teams, a feedback form was included. Of the 34 feedback forms returned (including 14 from Psychiatry, 6 from Nutrition, 5 from CAP) all noted that the information was received in time to meet the information needs at the time, and only one response indicated that the search results were not useful. All the interviewees agreed that the information was found in good time, and 25% of the interviewees stated that the information had been required urgently.

‘Sometimes things are needed urgently, you know if you’ve got a patient on the ward and it’s pertinent to their care, sometimes you know we need it within twenty four hours. And she’s never let us down, she’s been very quick with it.’

The immediate cognitive impact was that some of the information was new, although some confirmed what was suspected and refreshed the memory of some details (Table 3). Some of the information was in most cases immediately applicable, and the results would almost always be shared with colleagues. In the interviews with the teams, 85% of the respondents stated they shared the information found by the clinical librarian with

colleagues and 12% reported that the information was shared widely. In fact, 10% of the interviewees commented that the information was, or would be shared with patients.

The information...(n=34)	Agree (%)	Disagree	Not applicable / no answer
Refreshed memory of details, facts	24 (70.6%)	4	6
Provided some new information	30 (88.2%)	2	2
Substantiated what was known or suspected	28 (82.4%)	2	4
Some could be used immediately	26 (76.5%)	5	3
More information will need to be obtained on topic	24 (70.6%)	7	3
Expected to find something else	9 (26.5%)	17 (50%)	8
Will be shared with colleagues	32 (94.1%)	0	2
Will be added to my personal collection	32 (94.1%)	0	2

Table 3 Immediate cognitive impact of information supplied

Interviews confirmed that the main impact on clinical practice was on patient management and therapy. None of the interviewees considered that the information found aided diagnosis but most of the searches contributed towards patient management and/or therapy (76% patient management, and 55% therapy).

‘In enabling us to be more effective and more concise in the report that we're creating at the moment. But also in the future from a perspective of using the most recent information available so that we're doing the most up-to-date therapy with clients, and providing the most up-to-date information material with clients.’ (CAP – occupational therapist)

‘Well I mean it helped a lot because we didn't know the best regime beforehand and we were able to apply that subsequently.’ (Nutrition - consultant)

‘Well I think it's been very useful because we started using fish oils on quite a few of our patients in hospital. So it gave us the confidence to go and do that.’ (Psychiatry - junior doctor)

In quite a few instances the information found confirmed and supported the treatment that was already being given.

‘It also backs up what we're already doing and what we're already using. Because sometimes what we are doing is actually best practice so we're doing it right and we don't need to change it. And the information actually backs that up.’ (Urology - consultant)

A final question to the interviewees was to ask them how they would like to see the service develop in the future. The responses were fairly evenly split between the following:

- The service should be more accessible to others
- There should be more searching skills training for staff (and perhaps less reliance on the clinical librarian for searching)
- For the service to continue as it is

Some of the teams were aware of the fine balance between more skilled themselves in searching and knowing when to delegate searches to the clinical librarian.

‘I think really probably in two ways really. One is I think there's always going to be a role and there should be a legitimate role for people who have a research interest to delegate that task of searching to someone who is competent. I think it's one thing to expect practitioners to implement new findings, it's another thing to expect them also to trawl a vast sea of existing research just to locate those findings. I think there's a legitimate place for practitioners to use the service merely in order to generate evidence-based material for them to use. But also I think indirectly, we should try and create a culture, and the librarian can be a part of this, whereby each and every practitioner becomes more competent to search the internet for relevant material. So I think it's a two prong thing really, there's doing the research for people and passing on the result and there's also a necessity to become more competent in the research themselves. But I think that's a realistic balance.’ (Psychiatry - social worker)

Analysis of the changes in attitudes towards time spent searching indicated that the clinical librarian effect was to increase the willingness of staff to spend time searching for information, but they were also more willing to delegate searching as well. Although the results indicated that this was cost neutral, in terms of staff time costs, the clinical governance outcomes were obviously better in more effective and timely searching for the evidence.

A few interviewees could see the journal clubs developing into a type of clinical question answering service, with a central database of frequently asked questions, as had been suggested much earlier, in fact, by the clinical librarian.

‘One thing which we had in mind was that you know, say in the last six months, eight months, we had a lot of searches made. There is no database or some central place where all this can be stored to prevent repetition. In the sense you know, like someone has done some search say in January this year, so if I get an idea, at least if I look up the database and see if it's already been done. So that would save both Jean's time and our time, you know. There are some ideas I think for getting this online but I don't think it has gone very far.’ (Psychiatry - junior doctor)

Although interested in principle, not one junior doctor had forwarded their questions and searches to be included on the database.

Team preferences for particular clinical librarian services

In the final questionnaire, team respondents were asked how they would allocate up to 20 currency units among various library services, including some clinical librarian services,

and the control group were asked the same questions. This type of question aims to gather information about user preferences and priorities for different services. We could have indicated comparative costs but this might have complicated response and analysis.

	CAP n=7	Psychiatry n=16	Urology n=6	Lung n=6	Nutrition n=6	ICU n=9	NE Wales (Wrexham) control n=50	Glan Clwyd control n=37	NW Wales control n=34
Bookstock, journals	2.86	4.06	4.33	5.50	1.50	2.44	4.45	5.72	4.9
Online journals	2.29	3.63	2.17	4.28	2.17	2.22	3.72	4.19	3.9
Databases through HOWIS	2.71	2.13	1.33	1.67	1.50	1.89	2.26	1.66	2.3
ILL/document delivery	1.71	1.88	1.50	2.22	1.50	1.78	3.06	1.92	1.7
Information skills: one to one support	4.00	1.19	0.88	0.89	1.50	1.56	1.26	1.25	1.6
Information skills training with CL	0.71	1.88	2.05	1.44	2.67	2.78	1.76	1.77	2.0
Other information skills training	1.00	1.13	0.38	1.00	1.17	1.78	0.98	0.70	0.8
Critical appraisal skills training with CL	0.43	1.56	0.72	1.44	3.50	2.22	1.12	1.13	0.9
Journal club support with CL	0.29	1.59	0.55	0.89	1.67	2.22	0.83	0.83	0.9
Other clinical librarian services	2.00	0.41	5.33	0.67	1.33	1.00	0.42	0.57	0.6
Not allocated	2.00	0.56	0.67	0.00	1.50	0.11	0.14	0.27	0.3

Table 4 Preferences for spending on clinical librarian and other services

The teams receiving clinical librarian services favour a shift of library spending towards more information skills training – the type depends on the needs of the team, with the newer teams favouring one-to-one support and the more established teams wishing to develop critical appraisal skills training. The pattern of spending preferences among teams receiving clinical librarian services reflects what had worked best for those teams, and the figures for the control group indicate that clinical librarian services have to be experienced to be appreciated.

Discussion

Much has been written about different stages of collaborative working and different types of trust. Hudson et al. (1997) describe a 'collaborative continuum' which they developed from a combination of three main sources on trust and collaboration, and which combines the two key dimensions of degree of integration and degree of trust. The 'continuum' between lower level of trust and higher level of trust ranges from *isolation/encounter*, through to *communication*, *collaboration* and finally, *integration*. Trust itself has been categorised into cognitive trust, based on perceived competencies, and affective trust, based on interpersonal relationships (Sonnenwald, 2003). It could be argued that the clinical librarian's initial contact with some of the groups would be characterised by the isolation/encounter stage, with loose-knit connected networks, infrequent and *ad hoc* interactions, divergently perceived organisational goals and interests and inter-professional rivalry and stereotyping. She noted in November 2003 that at an ICU Meeting: *"No one turns up!! Not too happy about this. No one turned up for the meeting and I had prepared a draft of my presentation for Thurs. so they could go over it and give*

me feedback/suggestions. It's a bit much not to even contact me to let me know they're not going to show. I guess this shows that I am not yet thought of as an "integral member of the team!!!" The clinical librarian learnt about the interests of team members so that when she found information that was of interest to an individual she would send it to them. This type of interaction, if successful, might increase relational trust (Rousseau et al. 1998), and provide evidence to the members of the team that the clinical librarian was competent, increasing both cognitive trust and affective trust. As Grossman and Larson (1996) note, in their study of the levels of relationship that exist within institutions between hospital librarians and information systems (IS) staff, *"Professional relationships that lead to team building are vital, because the strength of the team depends upon the quality of the relationships among its members."*

It would appear that 'integration' occurred very quickly in the clinical librarian's interaction with the Nutrition team, the CAP team and the OT (Occupational Therapy) journal club, and was soon achieved in the Psychiatry team. The restructuring of the Psychiatry journal club enabled the clinical librarian to take a defined role within the team, a role that was more interactive than just supportive, or a simple exchange of search request and supply of results. Although with the ICU team she did not feel an integral member of the team at first, through the development of her own critical appraisal skills and her contribution to the restructuring of the journal club she became more confident and was highly regarded by the consultants in the team. The type of integration may vary according to the way the team is organised at the outset. The CAP team were in the early stages of 'forming and norming', and the affective trust more important (as indicated by the emphasis on individual skills training and support in their preferred allocation of library services) whereas the other teams had norms and expectations of performing. Clinical librarian working is affected by the institutional context and organisational changes often limit the amount of trust that can be generated in, for example, guideline development (Glassington and Urquhart, 2003).

The clinical librarian's working liaison with the Lung MDT could probably be regarded as at the "communication" level of the Hudson et al model, i.e. limited acceptance of the notion of membership of a team. After a slow start, trust was built up with the Urology MDT and the "collaboration" level of the Hudson et al model was reached in that there was "an acknowledgement of the value and existence of a team, and agreement on the membership of it." Full integration with the team was more difficult as there was no easy way for the clinical librarian to make the team working easier or more effective. Ironically, the teams that may have clinical librarian champions who are aware of the importance of library services may be those where there can be a ceiling effect – few opportunities to make a large difference to team working. The dependent teams, where there are more opportunities to make a difference, may not demand clinical librarian services – a catch-22 situation.

The variety of methods used in the evaluation proved essential in understanding the impact of the service. The changes in perceived competencies in searching were often small, and there was little evidence of the journal club effect in the profiles of the ICU or Psychiatry team (Figures 2 and 3), or in the number of literature search requests made.

The reflective practice diary, combined with analysis of the interview data provided qualitative evidence for the changes that had taken place.

Conclusion

The very different pattern of service development that emerged within the multidisciplinary teams could not, it seems, be predicted at the outset, and this seems to be inherent in the nature of any clinical librarian service. The North Wales Clinical Librarian project provides further evidence of the need to build cognitive trust, based on perceived competencies, particularly among established multidisciplinary teams. Active contributions, through journal club activities, may be more successful than activities that are mostly supportive, such as literature searches. Well established teams are 'performing' and the clinical librarian needs to be seen to make a difference quickly. In the newer teams, more emphasis on building good interpersonal relationships may be necessary.

There are several messages for evaluating the cost effectiveness of clinical librarian projects. First, assessing impact requires qualitative and quantitative evidence, and an 18 month period may be necessary to assess the changes in team working and clinical practice. Second, a variety of methods is necessary, as changes in attitudes towards searching do not seem to proceed as smoothly as some information literacy frameworks assume. With small clinical teams, and some staff turnover among junior doctors, demonstrating changes in team attitudes with quantitative data alone is difficult, if not impossible. However, using qualitative and quantitative methods, with baseline and final surveys, it was possible to demonstrate that changes had or had not occurred. The reflective practice diary provided further evidence for the way the clinical librarian developed the role and responsibilities, and why changes happened in some teams, but not in others. The development of trust is partly based, perhaps, on attitudes of individuals in the team, but also contextual factors. Evaluation needs to be longitudinal, and evaluators need to look at the situation from a variety of perspectives.

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